
WEAR TRACES OF BASALT TOOLS - AN EXPERIMENTAL CASE FOR ARCHAEOLOGICAL INTERPRETATION (BATEX): A NEW PROJECT ON MICRO-WEAR STUDIES OF BASALT TOOLS

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Abstract

Basalt is one of the most common raw materials used for tool manufacture in many prehistoric sites. The widespread importance of this raw material is emphasized by its spatiotemporal ubiquity across many archaeological sites, but researchers still lack a unified methodology for assessing uses of basalt by hominins in prehistory. This is especially true for the sites of older chronologies where basalt is often the most important and sometimes the only source of information about the life and behaviour of early hominins. BaTEx aims to fill in this existing void by providing the necessary methodological framework using multiple macro- and microscopic techniques and experimentation to permit the functional analysis of basalt tools. We present the first results of this project and specifically focus on the experimental component. Thanks to sequential experimentation and analysis

with a comprehensive functional approach combining optical and scanning electron microscopes, we are able to provide the first insights in terms of use-wear formation on basalt. We discuss the minimal use duration required for diagnostic wear to form, the characteristics of edge damage, polish, and other wear and discuss how basalt differs from other raw materials. We elaborate on the potential of BaTEx for future investigations of archaeological material. The expected impact of the project is that it will provide functional data on basalt tools allowing, for the first time, to fully study and interpret human activities at key archaeological sites including those of older chronologies, and to properly address technological issues, subsistence patterns and even behavioural and cognitive aspects of basalt assemblages, which cannot yet be faced in the current stage of research.

Keywords: Basalt; stone tool micro-wear; microscopy; experimental archaeology; Pleistocene